1: Radcliffe-Brown E-5 (1906-1908)1922
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412 324 the oldest men all agreed in stating that they never used stone for their adzes. We may conclude that Colebrooke's statement is untrustworthy.

Stoliczka records the finding in the South Andaman of a stone celt and a stone arrow-head in the kitchen-middens of the South Andaman. The chief reason for doubting the value of this find is that Stoliczka states that these implements were made of tertiary sandstone, which it is very hard to believe would be of any use whatever. We may therefore adopt the opinion of M. Lapicque[1] that Stoliczka had found fragments of a whet-stone of sandstone and had been mislead into thinking that he had found an axe and an arrow-head.

A third statement that needs to be considered is one by Mr Portman, who presented to the British Museum an arrow with a head of stone made specially for him by a native of the North Andaman who stated that in former times such arrow-heads were used by the Andamanese. At the present time the arrow-head is broken and it would seem to be so fragile as to be entirely worthless for the purpose to which it was supposed to be put. The natives of the North Andaman whom I questioned stated that they did not use stone for their arrow-heads, but shell. We may therefore hold that the evidence given by Mr Portman is not at all satisfactory.

In the Akar-Bale tribe I heard a legend that at a certain spot there is a kind of stone which was used by the ancestors for making adzes. I visited the spot and the stone was pointed out to me. Unfortunately the specimen that I took was lost and I am therefore unable to state what the stone was, but it was such that it would have been utterly impossible to make any sort of adze out of it. It was of a crystalline nature and was easily fractured by a blow against even a soft substance such as wood. It was clear that the native statements about it were merely a legend having no historical value.

We may justifiably conclude that it is probable that the statement of the natives to the effect that before they possessed iron in any quantity they made their adzes and arrow-heads out of shell and not out of stone, is correct. Their use of stone for cutting was therefore confined to the flakes which have been described.

412 321 The most important material to the Andamanese seems to have been shell. Mollusc shells were used in the natural form or after having been manufactured. The chief shell used in its natural form is

[1] Lapicque, "Ethnographie des Iles Andaman," *Bulletin de la Société d'Anthropologie de Paris*, 1894, p. 370.

1: Radcliffe-Brown E-5 (1906-1908)1922
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the *Cyrena* which serves at the present time as a knife, a scraper and a spoon. Even when they have knives of iron and steel they still use the *Cyrena* shell in preference for some purposes. It is used as a scraper in preparing fibres for rope and thread, in making arrows, as a knife for cutting thatching leaves and cane and even thread and rope, and for making incised patterns on bows and arrows. The shells are always to be found lying about their encampments, and a few are always carried with them when they migrate to a fresh camp. Those living inland obtain their supply of shells from their friends on the coast.

When in use the shell is clasped between the thumb and first finger, the thumb passing over the convex side and the finger round the hinged edge. The remaining fingers are used to clasp the object that is being scraped or cut. In cutting, the motion is away from the body, being produced by a twist of the wrist. In scraping the motion is away from the body, or from left to right. A knife of iron or steel is held in this way by the natives whenever it is used for any purpose for which they formerly would have used a shell. The blade is clasped near the handle between the thumb and first finger, the back of the blade pressing against the root of the thumb, and the handle away from the body.

Another shell that is used in its natural form is a small whelk shell that is used as a scraper for scraping off the outer skin of mangrove seeds in preparing them for food.

A shell that is used in very nearly its natural form is a kind of pearl shell that grows along creeks through the mangrove swamps. The shell is only very slightly curved and it is for this reason that it is selected as suitable. The weak edge or lip of the valve is broken away, and the edge is then slightly ground on a stone. This implement is used by women for slicing yams and certain other vegetables such as some kinds of seeds when they are being prepared for food.

The natives say that before iron was plentiful they used shells for the heads of their pig-arrows. Several different species of shell seem to have been used, the chief concern being to obtain a piece of sufficient size that was as nearly flat as possible. Such shells are those belonging to the larger bivalves. The natives state that their method of working the shell was to break it roughly into shape with stones and then grind it down on a whet-stone until it was given a sufficiently sharp point and edge. Some arrow-heads of shell were made for me by this method at my request by one of the old men of the North Andaman.

The natives state that before they had iron they made their adzes of shell. Two different men of the North Andaman made two shell adzes

1: Radcliffe-Brown E-5 (1906-1908)1922
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for me, one of *Pinna* shell, and the other of a shell that I omitted to identify. The *Pinna* shell adze seemed to me only suitable for light work such as finishing off a bow or a canoe, as it seemed likely to break under a strong blow. The other adze was much stronger and therefore capable of heavy work, and although the edge seemed to me to make it a poor implement with which to cut down a tree yet it certainly did not seem less suitable than the stone adzes used by many primitive peoples. If I were given a choice of implements with which to fell a tree, between the shell adze of the Andamanese and a stone axe of South-western Australia I should certainly choose the former.

According to the natives they formerly used bone for the points of their fish-arrows and for the barbs of their pig-arrows. For both of these purposes they now use iron. The bone was broken into a piece of suitable length and then ground down with a whet-stone. Apparently the bone most frequently used was the tibia of the pig. For their fish-arrows they also made use of the bone of the tail of the sting-ray,—its "sting." When the fish was caught the bone was knocked off and reserved for use. It required no treatment whatever, being simply bound on to the point of the fore-shaft in the same way that an iron point is now attached.

Colebrooke, in 1789, described their arrows as "headed with fish-bones or the tusks of wild hogs, sometimes merely with a sharp bit of wood hardened in the fire." By fish-bone he probably means the bone of the sting-ray. Where he writes the tusks of wild hogs we should probably read "the bones." A boar's tusk is curved, and it seems impossible to imagine how it could possibly be used as an arrow-head or arrow-point.

The boar's tusk is used by the Andamanese as an implement, however, making a very efficient sort of spokeshave. The edge which is used is kept sharp by scraping with a quartz or glass flake or with a *Cyrena* shell. The edge is near the point (at *a* in Fig. 27) and the tusk is clasped at the other end between the forefinger and the root of the thumb (at *b* in Fig. 27), the movement being away from the body. It is used for planing bows and paddles, and in the

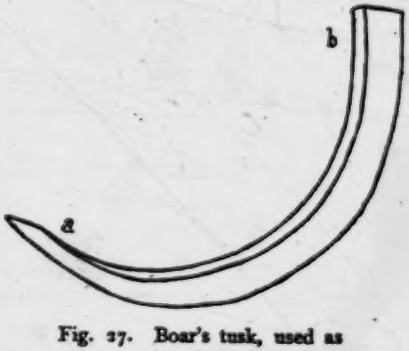

Fig. 27. Boar's tusk, used as a spokeshave

1: Radcliffe-Brown E-5 (1906-1908)1922
AZ2 Andamans AZ2

hands of an Andaman Islander is a very efficient implement, producing a beautifully smooth and even surface.

Of wood the Andamanese formerly made knives and arrow-points. The knives were made of a slip of bamboo or cane shaped and sharpened with a *Cyrena* shell. Such knives were used for cutting meat and apparently for no other purpose. A knife was always attached by a short length of cord to a skewer of pointed *Areca* wood. The double implement was used in cooking and eating, the skewer serving to lift pieces of meat in and out of a pot, while the knife served to cut them. At the present time the cane or bamboo knife is replaced by a knife made from hoop-iron, but the shape of the original implement is retained as nearly as possible and a skewer of *Areca* wood is generally attached to it.

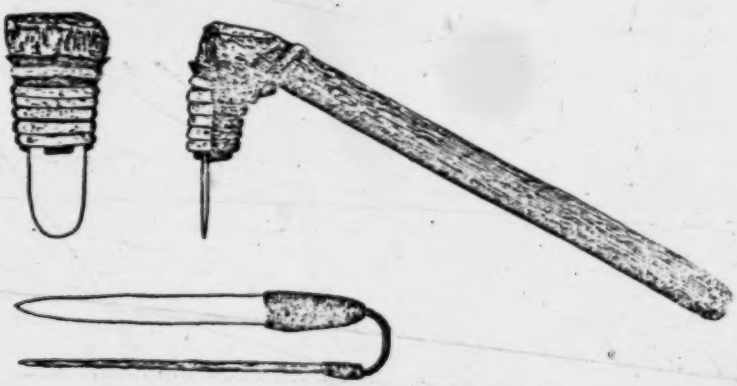

Fig. 28. Adze and knife

As has been already stated the Andamanese formerly used hard wood such as that of the *Areca* palm for the points and heads of their arrows. They do not seem to have made use of bamboo in this way.

At the present time iron is used for the blades of adzes, for the heads and barbs of pig-arrows, the points of fish-arrows, the heads of harpoons, and for knives. The method of working the metal is apparently exactly the same as the method they formerly used for working shell and bone. For the head of a pig-arrow a suitable piece of iron is taken and a fragment of about the right size is broken off by means of a stone hammer. This is then roughly broken into the required shape, no heat being used, and no advantage being taken of the malleability of the metal. The next process is to grind it on a

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

Andaman, in Yeratil Jig (near Port Anson, about fifteen miles from Long Island) in Diglipur (or Dilyapur) Creek, near Port Cornwallis, and in Wilima Jig,[1] but they are now extinct. In March 1952 the Onges had described the presence of crocodiles so clearly to me as to leave no doubt what they meant, and I soon received confirmation when I found their tracks on the sand about one kilometre from the mouth of Jackson Creek, on the right bank, and then saw some lying on the shore across the creek. Through my field glasses I saw small birds pecking between the teeth of the great wide-open jaws. As we approached they slid lazily into the sea, some reappearing a little later, their cavernous mouths rising vertically out of the water. Every day after that I saw them swimming quietly near the banks, and one afternoon my men and I between us saw over a dozen, near Nachuge, dozing in the mud or in the water.

The Onges assured me that crocodiles will come out of the water to a certain whistle. I got them to try it; the Onges whistled, and whistled again, but no crocodiles came!

Very different from the great turtles and the crocodiles, but equally important in the daily life of the Onges, are the crabs from which the islanders make their ancient and very characteristic pipes. They eat the crabs and use the claws to make the pipes, cutting them across the joint and boring a hole in the end, as they have done since time immemorial, to smoke aromatic leaves from the forest. Fragments of similar pipes, charred with use, appear in even the lowest strata of the kitchen-middens, dating back thousands of years and proving the antiquity of the smoking habit. Contrary to popular belief, smoking did not begin everywhere with the introduction of tobacco – in Asia at least men smoked thousands of years ago.

The claw pipes of the Onges have a groove cut round the end which goes into the mouth, so that the teeth can grip it better. I have seen identical pipes, with the same groove, in the Melville Islands, where there are many other signs of ethnographic connections with the Andamans. The canoes, for example, are identical with those of the Andamans; the peoples themselves, however, are today very different physically.

[1] According to Portman a man was dragged into the water here on 11 May 1894 by a crocodile and killed; several similar incidents have occurred since.

11: Cipriani E-3 (1951-1955) 1966 AZ2 Andamans AZ2

Appendix

Below is given a brief summary of the evidence which in the author's opinion supports his view that the culture of the Andaman Islanders dates back at least to the Palaeolithic era.

1 ABSENCE OF STONE IMPLEMENTS

There are in the Andamans abundant sources of stones suitable for shaping into tools. Despite this I found no traces whatever of any stone implements even in the lowest strata of the kitchen-middens, nor is there any evidence of their being used either in the more recent past or at the present time. Until the very recent introduction of iron the Onges always (as the kitchen-middens confirm) made tools solely of wood, with the addition of parts made from *Tridacna* shells, shaped by long and patient rubbing against stone. The only objects remotely approaching the definition of stone implements are the splinters of quartz or obsidian which are carried in the hair, and used as razors or, in the Arioto only, for primitive tattooing. These splinters, which are in no way shaped after being broken off, are thrown away as soon as they become blunt, and a new piece of quartz is crudely struck from a lump, by men or women indiscriminately. The existence of this one stone implement does not, in my view, justify the classification of the Onges (or the Andamanese in general) as a true Palaeolithic people; it would be more reasonable to class them as prelithic.

2 ABSENCE OF METAL WORKING

Even today the Onges' knowledge of metal working is confined to rubbing pieces of iron against stone to reduce them to the required shape. They have no knowledge of how to forge it, nor have they the tools to do so. Iron is clearly a very recent introduction, the importance of which the